US Army Corps of Engineers®
Engineer Research and Development Center

Geographic Information System (GIS) Module for the ROOFER Engineered Management System

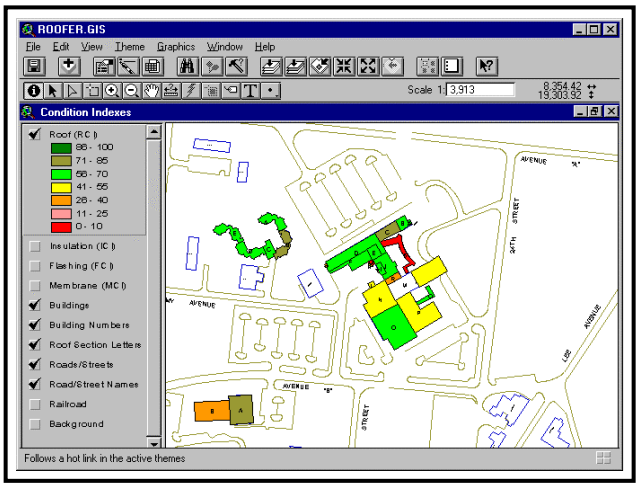
Description

A GIS module developed for ROOFER dynamically links the ROOFER databases to corresponding spatial tables which are derived from digitized installation and roof section maps. The joining of these data forms allows both spatial and aspatial data to be represented spatially. ArcVIEW 3.0–3.2, developed by Environmental Systems Research Institute as a GIS viewer, is being used as a "managerial" GIS package. ArcVIEW 3.0 does not include the full range of features found in the most sophisticated GIS products, but it enables the user to view and query data spatially.

ROOFER GIS maps are color-coded to represent roofs according to their ROOFER inventory information and current inspection-based Roof Condition Index (RCI). The ROOFER GIS application operates on computers with at least 8 Mb of random access memory (RAM), running Windows 3.1, Windows for Workgroups, or Windows '95.

Expertise

The ROOFER EMS was designed by the Construction Engineering Research Laboratory (CERL) to help military facility managers optimize maintenance and repair (M&R) spending for roofs. The current version, ROOFER 2.0, is robust and flexible, but most information and analytical reports output in text format making it difficult to fully exploit the data. This graphic presentation of ROOFER data was needed to make it easier to visualize queries spatially, thereby improving the quality of decision support. Integrating GIS technology with ROOFER gives managers a powerful new tool for making best use of limited funding and resources in planning M&R work.



Supporting Technology Products

ROOFER is available through the ROOFER Technical Assistance Center at the University of Illinois at Urbana-Champaign. The Center's fees for program distribution and technical support are: $650 for initial subscription; $600 for annual renewal.

Benefits

Graphical output from ROOFER GIS lets the manager see roof conditions at a glance from an installation-wide perspective. Trends can be easily spotted in different areas or among facilities with other common attributes. Managers can more effectively plan M&R projects by grouping similar types of work together, improving the contractor's productivity by avoiding frequent equipment moves. Color-coded roof-condition maps offer a clearer way to communicate M&R budget requirements than by using pages of textual and tabular data.

Success Stories

ROOFER GIS has been beta tested at Fort Lee, VA, Fort Riley, KS, Sharpe Army Depot, CA, and Tracy Defense Depot, CA.

Distribution Sources

Users can download the ROOFER program and updates from the Technical Assistance Center, Suite 202, University Centre, 302 E. John St., Champaign, IL 61820; Phone: (217) 333-5414, from URL:

http://www.conted.uiuc.edu/techctr/roofer/

POCs

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